ABSTRACT OF THE DISCLOSURE

In the method, the interference on the available communication frequencies is measured during an idle time slot of a TDMA frame over a first period of time (e.g., several frames) at a first rate. Then, the available frequencies are prioritized based on the interference measurements, and a list is formed of a number of the frequencies having the lowest interference measurements. Second interference measurements are made again at a second rate, greater than the first rate, for a second period of time less than the first period of time. When a call is being assigned to the idle time slot, the interference level requirements for the call are given (e.g., a minimum carrier-to-interference ratio that must be maintained), and the carrier power level of the call is measured. The carrier-to-interference ratio of each frequency in the list is then determined using the second interference measurements and the measured carrier power. The frequencies in the list meeting the interference level requirements for the call are then selected, and frequency hopping while serving the call is performed using the selected frequencies. In a second embodiment, the first interference measurements are made for all idle time slots in the frame. In a third embodiment, the lists associated with each time slot are combined to create a composite list. The frequencies for use in frequency hopping are then selected from the composite list.